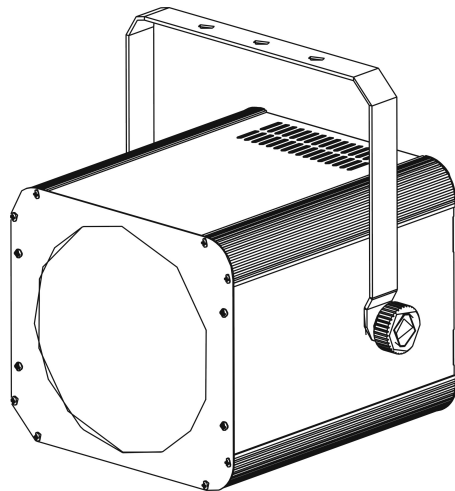




# MATRIX LED



**LED-7871**

## User Manual

Please read the instructions carefully before use

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## 1. Safety Introductions



### WARNING

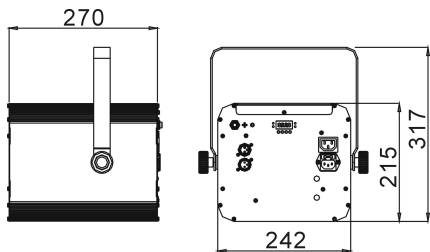
Please read the instructions carefully which includes important information about the installation, operation and maintenance.

- Please keep this User Manual for future consultation. If you sell the fixture to another user, be sure that they also receive this instruction booklet.
- Unpack and check carefully there is no transportation damage before using the fixture.
- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- Disconnect main power before servicing and maintenance.
- Maximum ambient temperature is  $T_a : 40^{\circ}\text{C}$ . Don't operate it where the temperature is higher than this.
- In the event of serious operating problem, stop using the fixture immediately. Never try to repair the fixture by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.
- Do not connect the device to any dimmer pack.
- Do not touch any wire during operation and there might be a hazard of electric shock.
- To prevent or reduce the risk of electrical shock or fire, do not expose the fixture to rain or moisture.
- The housing must be replaced if they are visibly damaged.
- Do not look directly at the LED light beam while the fixture is on.
- There are no user serviceable parts inside the fixture. Do not open the housing or attempt any repairs by yourself. In the unlikely event your fixture may require service, please contact your nearest dealer.
- Due to the magnifying type lens, please keep the lens out of contact with direct sunlight. Direct sunlight can cause heat to build up inside of the unit, which will seriously damage unit.

For power supply, do not connect in series much more than 20 units, use another mains supply for next 20 units.

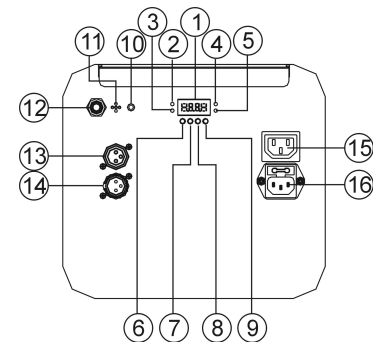
2. Technical Specifications

- The Matrix 4 LED features 4 high brightness red, green, blue and white LEDs clusters, cresting stunning text patterns, geometric figures, dynamic scanning, rolling and rotating effects.
  - Great built-in lighting shows under Master/Slave operation triggered by music
  - Optional CA-8 easy controller for enjoying instant lighting shows at you fingertips
  - LED display for easy navigation
- 
- **Input Voltage:** 100V~240V 50/60Hz
  - **Power consumption:** 29W
  - **LED:** Total 256pcs,  
Red 64pcs, Green 64pcs, Blue 64pcs, White 64pcs
  - **Dimension:** 270 x 242 x 317mm
  - **Weight:** 3.8 kgs



3. How To Set The Fixture

3.1 Control Panel



① **Display:** To show the various menus and the selected functions

**LED:**

② DMX	On	DMX input present
③ MASTER	On	Master Mode
④ SLAVE	On	Slave Mode
⑤ SOUND	Flashing	Sound activation

**Button:**

⑥ MENU	To select the programming functions
⑦ DOWN	To go backward in the selected functions
⑧ UP	To go forward in the selected functions
⑨ ENTER	To confirm the selected functions

⑩ **Sensitivity:** Adjust sensitivity of the sound control.

⑪ **Microphone:** Receive music for the sound active.

⑫ **Only for remote control:** By connect to the 1/4" microphone jack to control the unit for Stand by, Function and Mode function.

⑬ **DMX output:** For DMX512 link, use 3-pin XLR plug cable to link the next unit.

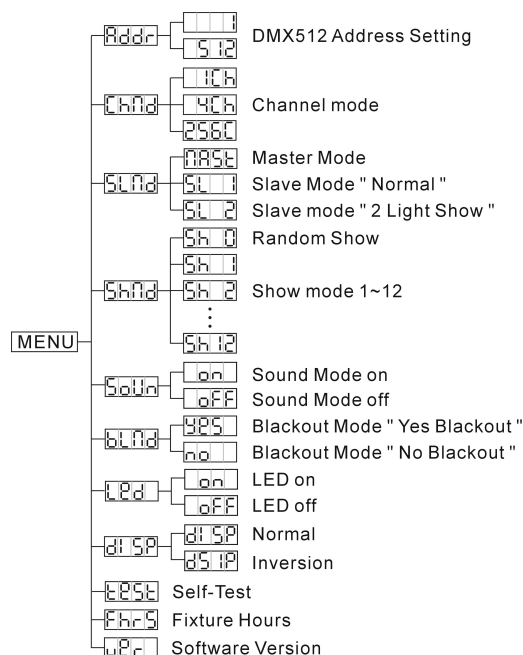
⑭ **DMX input:** For DMX512 link, use 3/5-pin XLR plug cable to input DMX signal

⑮ **Mains output:** Connect to supply mains power for the next unit.

⑯ **Mains input:** Connect to supply mains power.

### 3.2 Main Function

To select any functions, press **MENU** button until the required one is shown on the display. Select the function by **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the mode. Once the required mode has been selected, press **ENTER** button to setup or it will automatically return to the main functions without any change after idling 10 seconds. Back to the functions without any change press **MENU** button. The main functions are shown below:



#### Addr DMX 512 Address Setting

Press the **MENU** button up to when the **Addr** is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX 512 address. Once the address has been selected, press **ENTER** button to setup or automatically exit menu mode without any change after 10 seconds. Back to the previous functions without any change press **MENU** button.

#### Chn Channel Mode

Press the **MENU** button up to when the **Chn** is shown on the display. Pressing **ENTER**

button and the display will blink. Use **DOWN** and **UP** button to select the **1Ch** (1 channel) or **4Ch** (4 channels) or **256C** (256 Channels) mode. Once the mode has been selected, press the **ENTER** button to setup or automatically exit menu mode without any change after 10 seconds. To go back to the functions without any change press the **MENU** button.

#### Sln Slave Mode

Press the **MENU** button up to when the **Sln** is shown on the display. Pressing **ENTER** button, Use **DOWN** and **UP** button to select the **Master** (master) or **SL1** (slave 1) or **SL 2** (Slave 2) mode. Once select, press the **ENTER** button to setup or automatically exit menu mode without any change after 10 seconds. To go back to the functions without any change press the **MENU** button

#### Shn Show Mode

Press the **MENU** button up to when the **Shn** is shown on the display. Pressing **ENTER** button, Use **DOWN** and **UP** button to select the **Sh 0** (Random show) or **Sh 1** (show 1) or **Sh 2** (Show 2) or ... or **Sh 12** (show 12). Once select, press **ENTER** button to setup or automatically exit menu mode without any change after 10 seconds. To go back to the functions without any change press the **MENU** button

#### Sou Sound

Press the **MENU** button up to when the **Sou** is shown on the display. Pressing **ENTER** button, Use **DOWN** and **UP** button to select the **on** (sound on) or **off** (sound off). Once select, press **ENTER** button to setup or automatically exit menu mode without any change after 10 seconds. To go back to the functions without any change press the **MENU** button

#### Bln Blackout mode

Press the **MENU** button up to when the **Bln** is shown on the display. Pressing **ENTER** button, Use **DOWN** and **UP** button to select the **YES** (blackout) or **no** (normal). Once select, press **ENTER** button to setup or automatically exit menu mode without any change after 10 seconds. To go back to the functions without any change press the **MENU** button

### LED LED display

Press the **MENU** button up to when the LED is shown on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select ON (display on) or OFF (display off) mode. Once select, press **ENTER** button to setup or exit menu mode without any change after 10 seconds. Back to the functions without any change press **MENU** button again.

### DISP Display Inverse

Press **MENU** button until DISP is blinking on the display. Use **DOWN** and **UP** button to select DISP (normal) or DISIP (inverse), press **ENTER** button to setup. Back to the functions without any change press **MENU** button.

### TEST Self-Test

Press the **MENU** button up to when the TEST is blinking on the display. Pressing **ENTER** button and the unit will run the built-in programmer for self-test. To go back to the functions press the **MENU** button.

### Fhrs Fixture Hours

Press the **MENU** button up to when the Fhrs is blinking on the display. Pressing **ENTER** button and the display will show the number of working hours of the unit. To go back to the functions press the **MENU** button.

### VER Software version

Press the **MENU** button up to when the VER is blinking on the display. Pressing **ENTER** button and the display will show the version of software of the unit. To go back to the functions press the **MENU** button again.

## 4. How To Control The Fixture

You can operate the unit in three ways:

- 1. By master/slave built-in preprogram function
- 2. By easy controller

### 3. By DMX controller

No need to turn the unit off when you change the DMX address, as new DMX address setting will be effected at once. Every time you turn the unit on, it will show “7871” on the display. After that the unit will be ready to receive DMX signal or run the built in programs.

## 4.1 Master/Slave Built In Preprogrammed Function

By linking the units in master/slave connection, the first unit will control the other units to give an automatic, sound activated, synchronized light show. This function is good when you want an instant show. You have to set the first unit in master mode MASTER and select SH0 (random show), SH1 (show 1) or ...or SH12 (show 12) and speed. Its DMX input jack will have nothing plugged into it, and Its master LED will be constantly on and sound LED will flash to the music. The other units will have to select SL1 (normal) or SL2 (2 light show) mode, Their DMX cables plugged into the DMX input jacks (daisy chain) and the slave led lights will constantly on.

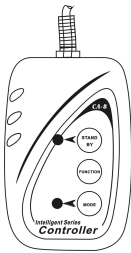
### 2-light show

In slave mode, SL1 means the unit works as the master unit and SL2 means 2-light show. In order to create a great light show, you can set SL2 on the second unit to get contrast movement to each other, even if you have two units only.

## 4.2. Easy Controller (by CA-8)

The easy remote control is used only in master/slave mode. There is a terminator for connect the easy controller inside the fixture. By connecting the cable into DMX IN waterproof cable entry gland to the CA-8 terminator of the first fixture, you will find that the remote control on the first fixture will control all the other fixtures for Stand by, Function and Mode functions.

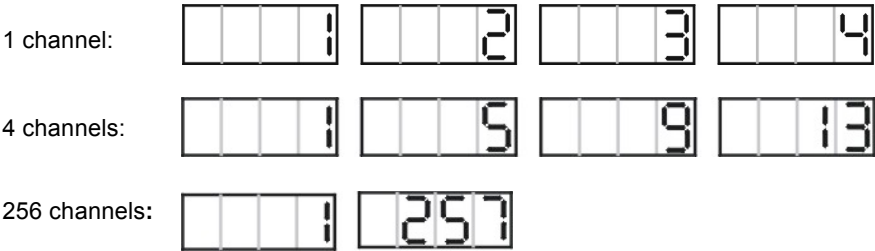
Blackout	Blackout the unit	
Function	1. Sound White Strobe 2. Sound Color Strobe	Select Show (Show 1-12)
Mode	Sound/Strobe (LED OFF)	Show (LED ON)



4.3 DMX Controller

Using universal DMX controller to control the units, you have to set DMX address from 1 to 512 channel so that the units can receive DMX signal.

Press the **MENU** button up to when the **Addr** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press and keep **ENTER** button pressed up to when the display stops blinking or storing automatically 8 seconds later. To go back to the functions without any change press the **MENU** button again. If you use please refer to the following diagram to address your DMX512 channel for the first 4/2 units.



5. DMX512 Configuration

1 & 4-CH modes:

DMX512 Configuration					
Ch1	Ch1	Ch2		Ch3	
Chase	Function	Pattern CH1=10-99	Chase CH1=100-239	Color CH1=10-99	Chase Speed CH1=100-239
240-255 Random Chase	Sound Active	236-255 Pattern 12	236-255 Chase 12	239-255 R+G+B+W	255 Fast
218-239 Chase 12		215-235 Pattern 11	215-235 Chase 11	222-238 G+B+W	
198-217 Chase 11		194-214 Pattern 10	194-214 Chase 10	205-221 R+B+W	
178-197 Chase 10		173-193 Pattern 9	173-193 Chase 9	188-204 R+G+W	
158-177 Chase 9	100-239 Chase	151-172 Pattern 8	151-172 Chase 8	171-187 R+G+B	10-255
138-157 Chase 8		130-150 Pattern 7	130-150 Chase 7	154-170 B+W	
128-137 Chase 7		109-129 Pattern 6	109-129 Chase 6	137-153 G+W	
108-127 Chase 6		088-108 Pattern 5	088-108 Chase 5	120-136 G+B	
88-107 Chase 5	10-99 Pattern	066-087 Pattern 4	066-087 Chase 4	103-119 R+W	10-255
68-87 Chase 4		042-065 Pattern 3	042-065 Chase 3	086-102 R+B	
48-67 Chase 3		021-041 Pattern 2	021-041 Chase 2	069-085 R+G	
29-47 Chase 2		000-020 Pattern 1	000-020 Chase 1	052-068 W	
10-28 Chase 1	0-9 OFF			035-051 B	0-9 Stop
0-9 OFF				018-034 G	
				000-017 R	

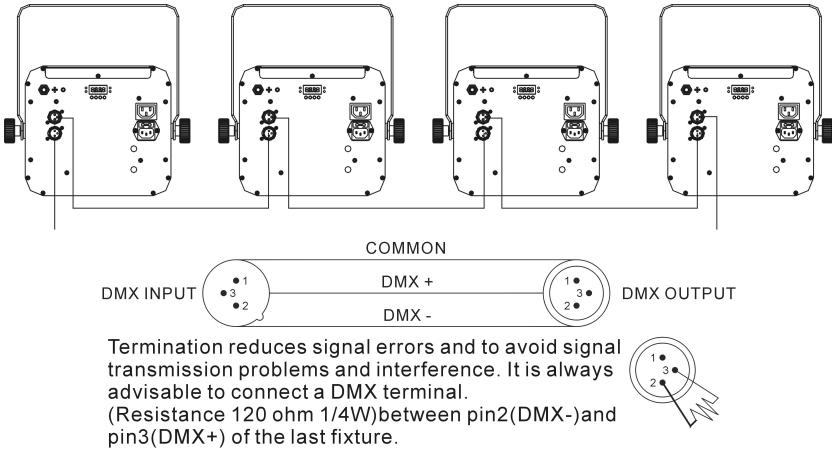
256-CH mode:

DMX512 Configuration								
Ch1	Ch2	Ch3	Ch4	...	Ch253	Ch254	Ch255	Ch256
Red	Green	Blue	White	...	Red	Green	Blue	White
255 100% 0 0%	255 100% 0 0%	255 100% 0 0%	255 100% 0 0%	...	255 100% 0 0%	255 100% 0 0%	255 100% 0 0%	255 100% 0 0%

4 channels as a group, please refer to the DMX configuration of 1-4 channels to control the other channels when you choose 256 channels mode. Under this mode, you can control the 256 LEDs separately.

6. DMX512 Connections

The DMX512 is widely used in intelligent lighting control, with a maximum of 512 channels.



- 1. Connect the fixture together in a “daisy chain” by XLR plug cable from the output of the fixture to the input of the next fixture. The cable cannot be branched or split to a “Y” cable. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system

2. The DMX output and input connectors are pass-through to maintain the DMX circuit when one of the units' power is disconnected.
3. At last fixture, the DMX cable has to be terminated with a terminator to reduce signal errors. Solder a 120-ohm 1/4W resistor between pin 2(DMX-) and pin 3(DMX+) into a 3-pin XLR-plug and plug it in the DMX-output of the last fixture.
4. Each lighting fixture needs to have an address set to receive the data sent by the controller. The address number is between 0-511 (usually 0 & 1 are equal to 1).
5. 3 pin XLR connectors are more popular than 5 pins XLR.  
 3 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)  
 5 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+),  
 Pin4/5: not used

## 7. Troubleshooting

Following are a few common problems that may occur during operation. Here are some suggestions for easy troubleshooting:

### A. The fixture does not work, no light

1. Check the connection of power and main fuse.
2. Measure the mains voltage on the main connector.

### B. Not responding to DMX controller

1. DMX LED should be on. If not, check DMX connectors, cables to see if link properly.
2. If the DMX LED is on and no response to the channel, check the address settings and DMX polarity.
3. If you have intermittent DMX signal problems, check the pins on connectors or on PCB of the fixture or the previous one.
4. Try to use another DMX controller.
5. Check if the DMX cables run near or run alongside to high voltage cables that may cause damage or interference to DMX interface circuit.

### C. Some fixtures don't respond to the easy controller

1. You may have a break in the DMX cabling. Check the LED for the response of the

master/ slave mode signal.

2. Wrong DMX address in the fixture. Set the proper address.

### D. No response to the sound

1. Make sure the fixture does not receive DMX signal.
2. Check microphone to see if it is good by tapping the microphone.

### E. One of the channels is not working well

1. The stepper motor might be damaged or the cable connected to the PCB is broken.
2. The motor's drive IC on the PCB might be out of condition.

## 8. Fixture Cleaning

The cleaning of internal must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the fixture's optics.

- Clean with soft cloth using normal glass cleaning fluid.
- Always dry the parts carefully.
- Clean the external optics at least every 20 days. Clean the internal optics at least every 30/60 days.

**EC - Declaration of Conformity**

We declare that our products (lighting equipments) comply with the following specification and bears CE mark in accordance with the provision of the Electromagnetic Compatibility (EMC) Directive 89/336/EEC.

EN55014-2: 1997 A1: 2001, EN61000-4-2: 1995; EN61000-4-3: 2002;

EN61000-4-4: 1995; EN61000-4-5: 1995, EN61000-4-6: 1996,

EN61000-4-11: 1994.

&

**Harmonized Standard**

EN60598-1: 2000+ALL: 2000+A12: 2002

Safety of household and similar electrical appliances

Part 1: General requirements

**Innovation, Quality, Performance**